Remarks

The Specification.

The specification has been amended at page 6 to replace at line 26 the expression "network 27" by "network 30". Applicants are grateful to the Examiner for pointing out this error in the specification.

Applicants have taken the opportunity to amend page 6 at line 17 to replace "green enterprise" by "blue VPN". It is submitted that this change corrects an obvious error which is readily apparent when reading the specification with reference to figure 1.

The specification has also been amended at page 7, line 20 to replace "call server 42" by "call server 44", also correcting an error identified by the Examiner.

35 U.S.C. §101.

Claim 24 has been replaced by new claim 25 to define statutory subject matter taking the lead offered by the Examiner and to explicitly include all the limitations of method claim 16 as amended.

New claim 26 has been added and also comprises a claim to a computer readable medium embodying a computer program comprising program code executable by a processor of a computing device, but explicitly including all of the limitations of method claim 23 as amended.

35 U.S.C. §112.

The claims, including claims 1, 12, 13, 16, 23 and 24, have been extensively amended to address the many indefinite objections identified by the Examiner. It is

submitted that the changes made address the Examiner's concerns and find basis throughout the description and, in particular, at page 6, line 12 to page 8, line 13.

35 U.S.C. §103.

The present invention concerns a problem of blocking that may occur at media proxies in a communications path.

In the situation as described in the present application with respect to figure 1 where a media proxy receives a first message comprising media packets from a first media gateway, the media proxy, upon receiving the first message, uses the first message to perform an address (and port) discovery procedure to determine the address it will require for forwarding second messages received from a second media gateway to the first media gateway. The second media gateway is located at or near another end of the communications path. In a similar manner, the media proxy also uses a second message comprising media packets received from the second media gateway to perform an address discovery procedure to determine an address to use for forwarding first messages received from the first media gateway to the second media gateway.

Thus, it can be seen from the above that the media proxy discovers the address it requires for delivering media packets from the second media gateway to the first media gateway from media packets transmitted from the first media gateway and discovers the address it needs for the second media gateway from media packets transmitted from the second media gateway. In this way, the media proxy resolves the problem caused by network address translators (NATs) in the communications path which can otherwise prevent the successful delivery of media (traffic) packets between the media gateways. This represents a known solution to the NAT problem.

The present invention as claimed deals with a problem that can arise where there are two media proxies in the communications path. A blocking problem may arise where

a first media proxy having received media packets from a first media gateway awaits receipt of media packets from a second media gateway. The first media proxy requires the media packets from the second media gateway in order to perform the address discovery procedure for determining an address for the second media gateway to which said first media proxy can send (forward) the media packets from the first media gateway. However, at the same time, the second media proxy, which has received the media packets from the second media gateway, awaits receipt of the (not coming) media packets from the first media gateway in order that it might also perform the address discovery process to determine an address for the first media gateway to which said second media proxy can send (forward) the media packets from the second media gateway to the first media gateway. Thus, a 'Catch 22' or blocking situation arises where each of the media proxies requires the media packets from the opposing media gateway in order to determine an address for forwarding the media packets from its respective media gateway to said opposing media gateway, but neither media proxy is able to forward the required media packets to the other media proxy. In other words, the first media proxy needs to receive the second media packets, but the second media proxy cannot send the second media packets without first receiving the first media packets and vice-versa.

The solution as claimed is to arrange for the first media proxy to send a probe message along the communications path towards an address that is deduced from the first media packets or which is provided by the call server, i.e. along the communications path towards the second media gateway end of the path. If a second media proxy is present in the communications path causing the above described blocking situation then it, upon encountering the probe message, sends a probe message acknowledge message back along the communication path to the first media proxy. The first media proxy then uses the address of the second media proxy (as determined from the probe acknowledge message) to send first media packets to the second media proxy Rather than the second media gateway) thereby breaking the deadlock. Subsequent transfer of packets between the first and second media gateways via the first and second media proxies can be based on addresses

determined by the normal address discovery procedure for the communication session path now that the block condition has been resolved.

There is nothing in the disclosures of O'Brien et al (US2002/0186685) or Eisenberg et al (US2003/0188001), whether taken singly or in combination, that teaches all of the claims limitations or which addresses to even recognizes the problem that may occur when two media proxies are present in the communication path.

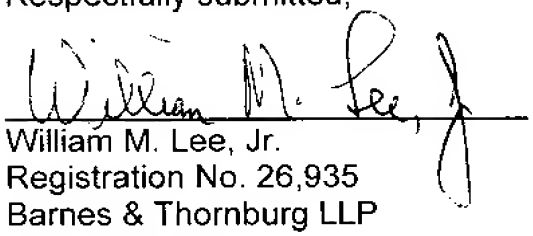
Even if one of ordinary skill in the art were to modify the system of O'Brien to adapt it to have means for automatic detection of firewalls and proxies, this would not lead to a system as claimed for resolving the above described blocking problem.

The present invention as now defined by the amended claims makes a useful contribution to the art over the combination of O'Brien and Eisenberg. Unlike Eisenberg which uses tunneling technology to avoid firewalls and proxies (paragraph 0018), the present invention uses the proxies as part of the solution and thus does not require the addition of tunneling technology as taught by Eisenberg to provide a solution. This is particularly apparent from claim 8 which defines that the communication session is coupled through a NAT in complete contrast to the combination of O'Brien and Eisenberg which employs tunnels to avoid NATs and proxies.

Accordingly, applicants believe that the claims as amended place the application in condition for allowance.

July 15, 2008

Respectfully submitted,



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